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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,118	03/10/2004	Shigekazu Harada	00380377AA	2471

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WHITHAM, CURTIS & CHRISTOFFERSON & COOK, P.C.
11491 SUNSET HILLS ROAD
SUITE 340
RESTON, VA 20190

EXAMINER	
LIU, LI	

ART UNIT	PAPER NUMBER
2613	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/796,118	HARADA, SHIGEKAZU	
	Examiner	Art Unit	
	Li Liu	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *03/10/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 03/10/2004 is being considered by the examiner.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 2, 5, 6, 14, 16, and 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

1). In claims 2, 5 and 14, "unreceived optical signal" and "unused wavelength" are cited; and the transmitted wavelength is based on the unreceived or unused wavelength. However, the original disclosure does not provide enough description for one to know what the "unreceived or unused" wavelength is, and how the "unreceived or unused" wavelength is decided. Suppose the received wavelengths are 1.51 μm, 1.52 μm, 1.53 μm, 1.54 μm and 1.55 μm, then the unreceived/unused wavelengths can be anything except the ones from 1.51 to 1.55 μm. Does the transmitter support the

1.00 μm? Does the transmitter support the 10.00 μm? What is the wavelength range the transmitter can support?

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 3, 4, 7-13, 15, 17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (Figure1 and the Background of the Invention) in view of Ogata (US 5,956,166).

1). With regard to claims 1 and 3, the admitted prior art discloses a wavelength division multiplexing transmission system (Figure 1) in which a plurality of remote apparatuses (20-1 to 20-m in Figure 1) are connected to a station apparatus (10 in Figure 1) and communication (Background of the Invention) is performed among said remote apparatuses and the station apparatus, wherein each of said remote apparatuses comprises wavelength determining means (Wavelength Controller 240-1 to 240-m in Figure 1) that determines an available wavelength.

But, the admitted prior art does not discloses that the wavelength determining means determines an available wavelength on the basis of an optical signal received from said station apparatus (claim 1), and determines the wavelength of a received

optical signal as the available wavelength and sets the wavelength as a transmission and reception wavelength to be used in said remote apparatus (claim 3).

In Figure 1 of the admitted prior art the Wavelength Controller is connected to the transmitter 230, not connected to the optical receiver. However, Ogata et al, in the same field of endeavor, discloses a controller that is connected to an optical filter (13-1 to 13-n in Figure 1) and receiver (14-1 to 14-n in Figure 1). Using the controller and the filter, the reception section can choose any frequency that the transmitter side sends (column 3 line 47-60). This allows for selectively receiving the signal light of the desired channel.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the filter connected with controller which also receives signal from receiver as taught by Ogata et al to the system of admitted prior art so that the controller can get the information from the receiver, and then desired wavelength for reception and transmitting can be easily selected based on the received information.

2). With regard to claim 4, the admitted prior art in view of Ogata et al discloses all of the subject matter as applied to claim 1 above. But the admitted prior art in view of Ogata et al does not teach wherein said station apparatus comprises optical output control means that determines a wavelength to be used, on the basis of an optical signal received from said remote apparatus.

The admitted prior art in view of Ogata et al discloses a wavelength control means based on a received signal at the remote node. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use

another wavelength control means at the station side. By using the wavelength control means at the station side, the wavelength desired by the remote node can be conveniently obtained. Claim 4 is not patentable different from the wavelength controller in admitted prior art in view of Ogata et al, because it is "to duplicate a part for a multiple effect" (see St. Regis Paper Company v. Bemis Company, Inc., 193 USPQ 8 (CA 7 1977)).

3). With regard to claim 7, the admitted prior art in view of Ogata et al discloses all of the subject matter as applied to claim 1 above. And the admitted prior art in view of Ogata et al further discloses wherein said station apparatus comprises:

wavelength demultiplexing means (4 in Figure 1 of the admitted prior) that demultiplexes the wavelength of a received optical signal;

optical receiving means (Optical Receiver 111 – 11n in Figure 1 of the admitted prior) that receives an optical signal demultiplexed by said wavelength demultiplexing means;

optical transmitting means (Optical Transmitter 101 – 10n in Figure 1 of the admitted prior) that transmits an optical signal having the transmission wavelength determined by said optical output control means; and

wavelength multiplexing means (3 in Figure 1 of the admitted prior) that multiplexes the wavelength of the optical signal transmitted by said optical transmitting means.

But, the admitted prior art does not discloses optical output control means that determines, as a transmission wavelength, an optical signal having the same wavelength as that of an optical signal received by said optical receiving means;

However, the admitted prior art in view of Ogata et al discloses a wavelength control means based on a received signal at the remote node. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use another wavelength control means at the station side. By using the wavelength control means at the station side, the wavelength desired by the remote node can be conveniently obtained. Claim 4 is not patentable different from the wavelength controller in admitted prior art in view of Ogata et al, because it is "to duplicate a part for a multiple effect" (see St. Regis Paper Company v. Bemis Company, Inc., 193 USPQ 8 (CA 7 1977)).

4). With regard to claim 8, the admitted prior art in view of Ogata et al discloses all of the subject matter as applied to claim 1 above. And the admitted prior art in view of Ogata et al further discloses wherein each of said remote apparatuses and said station apparatus are connected with each other through optical branching (7 and 8 in Figure 1 of the admitted prior) and coupling (wavelength division unit 5 in Figure 2 of Ogata et al) means.

5). With regard to claim 9, the admitted prior art in view of Ogata et al discloses all of the subject matter as applied to claim 1 above. And the admitted prior art in view of Ogata et al further discloses wherein said optical branching and coupling means is an optical coupler (wavelength division unit 5 in Figure 2 of Ogata et al).

6). With regard to claim 10, the admitted prior art in view of Ogata et al discloses all of the subject matter as applied to claim 1 above. And the admitted prior art in view of Ogata et al further discloses wherein said optical branching and coupling means is wavelength demultiplexing and multiplexing means (7 and 8 in Figure 1 of the admitted prior).

7). With regard to claim 11, the admitted prior art in view of Ogata et al discloses all of the subject matter as applied to claim 1 above. And the admitted prior art in view of Ogata et al further discloses wherein said plurality of remote apparatuses and said station apparatus are connected in a star topology (Figure 1 of the admitted prior is a star topology, page 2 line 9).

8). With regard to claim 12, the admitted prior art in view of Ogata et al discloses all of the subject matter as applied to claim 1 above. But the admitted prior art in view of Ogata et al does not disclose wherein said plurality of remote apparatuses and said station apparatus are connected in a tree topology.

However, as the applicant state a tree system is just a configuration in which a number of remote apparatuses are connected to each other through a relay point such as a star coupler (page 1, line 17-20). So, the tree topology is just adding another "star" configuration to a star configuration. Therefore, Claim 12 is not patentable different from the star topology in admitted prior art in view of Ogata et al, because it is "to duplicate a part for a multiple effect" (see St. Regis Paper Company v. Bemis Company, Inc., 193 USPQ 8 (CA 7 1977)).

9). With regard to claims 13 and 15, the admitted prior art discloses a remote apparatus (20-1 to 20-m in Figure 1) in a wavelength division multiplexing transmission system (Figure 1) in which a plurality of remote apparatuses are connected to a station apparatus (10 in Figure 1) and communication is performed among said remote apparatuses and the station apparatus (Background of the Invention), said remote apparatus comprising wavelength determining means that determines wavelength determining means (Wavelength Controller 240-1 to 240-m in Figure 1) that determines an available wavelength.

But, the admitted prior art does not discloses that the wavelength determining means determines an available wavelength on the basis of an optical signal received from said station apparatus (claim 13), and determines the wavelength of a received optical signal as the available wavelength and sets the wavelength as a transmission and reception wavelength (claim 15).

In Figure 1 of the admitted prior art the Wavelength Controller is connected to the transmitter 230, not connected to the optical receiver. However, Ogata et al, in the same field of endeavor, discloses a controller that is connected to an optical filter (13-1 to 13-n in Figure 1) and receiver (14-1 to 14-n in Figure 1). Using the controller and the filter, the reception section can choose any frequency that the transmitter side sends (column 3 line 47-60). This allows for selectively receiving the signal light of the desired channel.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the filter connected with controller which also receives signal from receiver as taught by Ogata et al to the system of admitted prior art

so that the controller can get the information from the receiver, and then desired wavelength for reception and transmitting can be easily selected based on the received information.

10). With regard to claim 17, the admitted prior art discloses a station apparatus (10 in Figure 1) in a wavelength division multiplexing transmission system in which a plurality of remote apparatuses (20-1 to 20-m in Figure 1) are connected to the station apparatus and communication is performed among said remote apparatuses and the station apparatus (Background of the Invention).

But, the admitted prior art does not discloses the station apparatus comprising optical output control means that determines a wavelength to be used, on the basis of an optical signal received from said remote apparatus.

However, Ogata et al, in the same field of endeavor, discloses a wavelength controller that is connected to an optical filter (13-1 to 13-n in Figure 1) and receiver (14-1 to 14-n in Figure 1) at the remote node. Using the controller and the filter, the reception section can choose any frequency that the transmitter side sends (column 3 line 47-60). This allows for selectively receiving the signal light of the desired channel.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the filter connected with controller which also receives signal from receiver as taught by Ogata et al to the system of admitted prior art so that the controller can get the information from the receiver, and then desired wavelength for reception and transmitting can be easily selected based on the received information.

The admitted prior art in view of Ogata et al discloses a wavelength control means based on a received signal at the remote node. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use another wavelength control means at the station side. By using the wavelength control means at the station side, the wavelength desired by the remote node can be conveniently obtained. Claim 17 is not patentable different from the wavelength controller in admitted prior art in view of Ogata et al, because it is "to duplicate a part for a multiple effect" (see St. Regis Paper Company v. Bemis Company, Inc., 193 USPQ 8 (CA 7 1977)).

11). With regard to claim 19, the admitted prior art in view of Ogata et al discloses all of the subject matter as applied to claim 17 above. And the admitted prior art in view of Ogata et al further discloses the station apparatus, comprising:

wavelength demultiplexing means (4 in Figure 1 of the admitted prior) that demultiplexes the wavelength of a received optical signal;

optical receiving means (Optical Receiver 111 – 11n in Figure 1 of the admitted prior) that receives an optical signal demultiplexed by said wavelength demultiplexing means;

optical transmitting means (Optical Transmitter 101 – 10n in Figure 1 of the admitted prior) that transmits an optical signal having the transmission wavelength determined by said optical output control means; and

wavelength multiplexing means (3 in Figure 1 of the admitted prior) that multiplexes the wavelength of the optical signal transmitted by said optical transmitting means.

But, the admitted prior art does not discloses optical output control means that determines, as a transmission wavelength, an optical signal having the same wavelength as that of an optical signal received by said optical receiving means.

However, the admitted prior art in view of Ogata et al discloses a wavelength control means based on a received signal at the remote node. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use another wavelength control means at the station side. By using the wavelength control means at the station side, the wavelength desired by the remote node can be conveniently obtained. Claim 4 is not patentable different from the wavelength controller in admitted prior art in view of Ogata et al, because it is "to duplicate a part for a multiple effect" (see St. Regis Paper Company v. Bemis Company, Inc., 193 USPQ 8 (CA 7 1977)).

12). With regard to claim 20, the admitted prior art discloses a method for adding a remote apparatus (page 3 line 12-190 to a wavelength division multiplexing transmission system (Figure 1) in which a plurality of remote apparatuses (20-1 to 20-m in Figure 1) are connected to the station apparatus (10 in Figure 1) and communication is performed among said remote apparatuses and the station apparatus (Background of the Invention).

The admitted prior discloses a wavelength determining means (Wavelength Controller 240-1 to 240-m in Figure 1) that determines an available wavelength. But , the admitted prior art does not discloses wherein an available wavelength is determined on the basis of an optical signal received at a remote apparatus to be added and the wavelength is set as a transmission and reception wavelength to be used in said remote apparatus to be added.

In Figure 1 of the admitted prior art the Wavelength Controller is connected to the transmitter 230, not connected to the optical receiver. However, Ogata et al, in the same field of endeavor, discloses a controller that is connected to an optical filter (13-1 to 13-n in Figure 1) and receiver (14-1 to 14-n in Figure 1). Using the controller and the filter, the reception section can choose any frequency that the transmitter side sends (column 3 line 47-60). This allows for selectively receiving the signal light of the desired channel.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the filter connected with controller which also receives signal from receiver as taught by Ogata et al to the system of admitted prior art so that the controller can get the information from the receiver, and then desired wavelength for reception and transmitting can be easily selected based on the received information.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lee et al (US 2005/0163503) discloses a method and apparatuses to provide a WDM passive optical network based on wavelength-locked WDM light sources.

Williams et al (US 5,808,767) discloses a network has media access control functionality and utilizes a dynamic media access control procedure for allocation of the bandwidth.

Tsuruta (US 6,850,711) discloses a PON with a band setting control section and a use right transmitting section etc.

Tandon et al (US 5,774,244) discloses an optical network with PONs with function of dynamically selecting wavelength.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Li Liu whose telephone number is (571)270-1084. The examiner can normally be reached on Mon-Fri, 8:00 am - 5:30 pm, alternating Fri off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Vanderpuye can be reached on (571)272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Li Liu
December 8, 2006

KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER